

**REMARKS**

This Amendment is responsive to the non-Final Office Action of November 9, 2009. Examination and allowance of claims 2-17, and 20-25 are requested.

**The Office Action**

Claims 1-3 and 17 stand rejected under 35 U.S.C. § 103 over Tondra (US 6,743,639) as modified by Cruden (US 5,486,754) as further modified by Nauta (US 5,065,093).

Claims 1-3, 6, and 7 stand rejected under 35 U.S.C. § 103 over Coehoorn (US 7,048,890) as modified by Cruden, as further modified by Nauta.

Claims 1-3, 6-10, and 17-22 stand rejected on the grounds of non-statutory obviousness-type double-patenting over claims 1-14 of Kahlman (US 7,508,200).

Claims 4, 5, and 11 were held to be withdrawn.

Claims 8 and 12-16 stand rejected under 35 U.S.C. § 112, second paragraph.

Claim 10 stands rejected under 35 U.S.C. § 103 over Tondra as modified by Cruden, as further modified by Nauta, as still further modified by Coehoorn.

Claim 18 stands rejected under 35 U.S.C. § 103 over Tondra or Coehoorn, as modified by Cruden, as further modified by Nauta, as still further modified by Smith (Sensors, 1999).

Claims 19-22 stand rejected under 35 U.S.C. § 103 over Tonra or Coehoorn, as modified by Cruden, as further modified by Nauta, as still further modified by Kabel. (US 5,930,200).

Claims 8, 9, and 12-16 were indicated as containing allowable subject matter.

**Double Patenting**

Kahlman is a later-filed patent with at least one common inventor and a common Assignee to the present application. When the patent is a later-filed application, a two-way obviousness-test is required (MPEP §804B(1)(b)). Because the Examiner has not applied the requirement two-way obviousness test, it is submitted that the Examiner has not made a *prima facie* case for double-patenting. Indeed, it is submitted that with the two-way obviousness test, double-patenting clearly does not apply.

**The Claims Distinguish Patentably  
Over the References of Record**

Coehoorn is a patent granted on an application that was co-pending with the present application and includes at least one common inventor and is commonly assigned with the present application. Accordingly, it is submitted that Coehoorn is not properly applied as a reference.

Claim 2 calls for a cross-talk suppression circuit. The Examiner acknowledges that Tondra does not disclose a cross-talk suppression means. Cruden is directed to an electrical current measuring device which measures the current in an electrical conductor 11 (abstract, lines 1-3). The cross-talk correction referenced by the Examiner includes placing the sensors 12A, 12B of Cruden on opposite sides of the conductor 11. While such an arrangement may be appropriate in a current measuring device, such a construction is not appropriate in a sensor for sensing magnetic particles and there is no enabling disclosure as to how one might incorporate the Cruden structure into the Tondra circuit. Moreover, because Cruden and Tondra disclose devices which work in different ways to achieve different end results, it is submitted that they are not analogous prior art. Nauta is even less analogous prior art. Nauta is directed to an inductive proximity sensor which detects objects which have electrical conductivity.

Neither Cruden nor Nauta teach or fairly suggest that cross-talk compensation is needed or should be added to the Tondra circuit, much less provide an enabling disclosure as to how to cure such cross-talk in the circuit of Tondra.

Further, the cross-talk suppression circuit of claim 2 suppresses neither capacitive nor magnetic cross-talk between a magnetic field generator and a magnetic field sensor element. By distinction, the cross-talk discussed in Cruden is between two sensors 12A and 12B. Similarly, Nauta is concerned with screening two measuring coils. Thus, both Cruden and Nauta are concerned with a different type of cross-talk than that which claim 2 addresses correcting.

Accordingly, it is submitted that claim 2 and claims 3-5, 11, 17, and 20-22 dependent therefrom distinguish patentably and unobviously over the references of record.

Claim 8, which was indicated as containing allowable subject matter, has been placed in independent form. Accordingly, it is submitted that claim 8 and claims 9, 10, and 12-16 dependent therefrom distinguish patentably over the references of record.

Claim 6 calls for a cross-talk suppression circuit which suppresses cross-talk between a magnetic sensor element and a first magnetic field generator. As discussed above, Tondra does not disclose or suggest the need for cross-talk suppression. Cruden and Nauta are both concerned with cross-talk between a pair of detection elements.

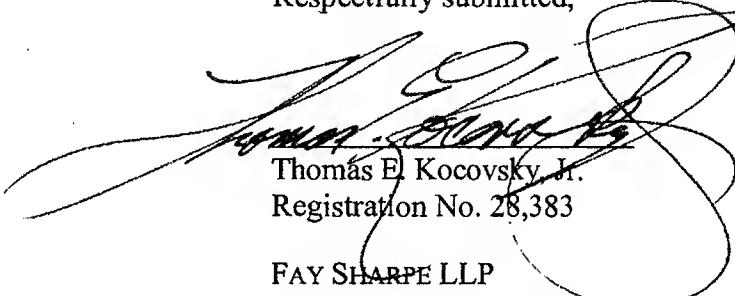
Claim 6 further calls for the cross-talk suppression circuit to combine a signal from the ac current source of the magnetic field generator with at least a component of a signal from a sensor element. Neither Tondra nor Cruden nor Nauta teach or fairly suggest such a cross-talk suppression circuit. Accordingly, it is submitted that claim 6 and claims 7 and 23-25 dependent therefrom distinguish patentably and unobviously over the references of record.

**CONCLUSION**

For the reasons set forth above, it is submitted that claims 2-17 and 20-25 distinguish patentably and unobviously over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at 216.363.9000.

Respectfully submitted,



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